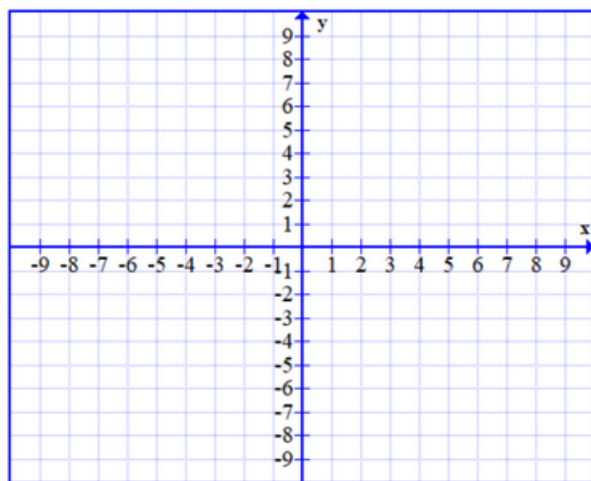# Algebra 2 - Radicals Problem Set

Stasya

1. Solve for x in $\sqrt{x} = 2 + \sqrt{x-8}$.

2. Determine the inverse of the function $g(x) = \sqrt[3]{\frac{2x+4}{3}} - 7$. If necessary, state the domain restrictions.

3. Given $f(x) = 3x^2$ and $g(x) = 2x - 3$, find what $\left(\frac{f}{g}\right)(2)$ is equal to.

4. Use the functions $f(x) = 4x + 1$ and $g(x) = \sqrt{x+5}$ to find $(f \circ g)(x)$ and state its domain.

5. Solve for x in $7\sqrt[3]{2x+5} = 21$.

6. Graph the function $g(x) = 2\sqrt[3]{x-1} + 2$. State the domain and range of the function.

7. Solve $(3x^4 + x^3 - 17x^2 + 19x - 6) \div (x^2 - 2x + 1)$ using polynomial long division.

8. What is the value of m such that $(x^3 - 2x^2 + mx + 13) \div (x - 1)$ has a remainder of zero?